

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (currently amended): An implant for location within an intervertebral space between a pair of adjacent vertebrae, the implant comprising:

a helical spring having a plurality of turns about a center line;

~~the~~ said helical spring adapted to be located with said center line extending within a plane located between the two vertebrae; and

said helical spring adapted to encounter compression loads transverse to said center line;

said helical spring adapted to flex in a direction transverse to said center line responsive to said transverse loads;

at least one of said turns adapted to have a turn height of at least half of a height of the space between the two vertebrae[.]; and

said center line being non-circular when said helical spring is unloaded and at body temperature.

Claim 2 (original): The implant of Claim 1 wherein said center line lies within a center line plane, said center line plane adapted to pass between the two vertebrae when said helical spring is located between the two vertebrae.

Claim 3 (original): The implant of Claim 2 wherein said center line is substantially linear.

Claim 4 (withdrawn): The implant of Claim 2 wherein said center line is curving.

Claim 5 (withdrawn): The implant of Claim 4 wherein said center line forms a circuit.

Claim 6 (withdrawn): The implant of Claim 5 wherein said center line is circular.

Claim 7 (original): The implant of Claim 1 wherein said turn height of said at least one turn is substantially similar to a height of the space between the two vertebrae.

Claim 8 (withdrawn): The implant of Claim 1 wherein said helical spring exhibits a substantially toroidal outline.

Claim 9 (withdrawn): The implant of Claim 1 wherein said helical spring exhibits a substantially cylindrical outline.

Claim 10 (original): The implant of Claim 1 wherein said helical spring exhibits a substantially barrel shaped outline with ends of said helical spring shorter in height than a middle portion of said helical spring.

Claim 11 (original): The implant of Claim 1 wherein said helical spring is substantially ellipsoidal in outline.

Claim 12 (currently amended): The implant of Claim 11 wherein said helical spring is shorter in a direction perpendicular to said center line and adapted to be oriented vertically when implanted, than it is wide; said width defined as being in a direction perpendicular to said center line and adapted to be oriented horizontally when implanted.

Claim 13 (withdrawn): The implant of Claim 1 wherein said helical spring is substantially frusto-conical in outline with a front end having a height greater than a height of a rear end of said helical spring.

Claim 14 (currently amended): The implant of Claim 1 wherein said helical spring is formed of a nickel titanium alloy having a martensite phase and an austenite phase, said spring adapted to be elongated in a direction along said center line and ~~decreased in diameter~~ reduced in radial distance away from said center line, and placed within a delivery cannula having a diameter less than said turn height ~~after discharge from the cannula and transition of said helical spring from said martensite phase to~~ when in said austenite phase.

Claim 15 (currently amended): The implant of Claim 1 wherein ~~said~~ turns adjacent a middle of said spring have a height greater than turns of said spring adjacent ends of said helical spring.

Claim 16 (withdrawn): The implant of Claim 1 wherein said turns adjacent a front end of said helical spring have a height greater than a height of turns adjacent a rear end of said helical spring.

Claim 17 (currently amended): The implant of Claim 1 wherein said turns have said turn height, in a direction perpendicular to said center line and adapted to be oriented vertically when implanted, less than a turn width; said width defined as being in a direction perpendicular to said center line and adapted to be oriented horizontally when implanted, ~~such that a cross-sectional outline of said helical spring is somewhat elliptical.~~

Claim 18 (withdrawn): The implant of Claim 1 wherein said turns are located abutting each other when said helical spring is at rest.

Claim 19 (withdrawn): The implant of Claim 18 wherein said turns include complemental surfaces to provide some degree of locking when said complemental surfaces abut each other.

Claim 20 (withdrawn): The implant of Claim 19 wherein at least one of said turns includes a tongue extending therefrom and at least one of said turns includes a groove thereon sized to receive said tongue therein.

Claim 21 (withdrawn): The implant of Claim 19 wherein at least one of said turns includes a trough extending therefrom and at least one of said turns includes a crest thereon sized to reside within said trough of an adjacent said turn.

Claim 22 (withdrawn): The implant of Claim 19 wherein at least two of said turns abutting each other include complementally formed mating notches therein.

Claims 23-45 (canceled)

Claim 46 (new): A method for stabilizing a pair of vertebrae adjacent an intervertebral space including the steps of:

providing a helical spring having a plurality of turns about a center line, the center line being non-circular when said helical spring is unloaded and at body temperature;

locating the helical spring with the center line thereof extending within a plane located between the pair of vertebrae;

encountering compression loads between the pair of vertebrae transverse to the center line, the compression loads applied against the helical spring; and

flexing the helical spring in a direction transverse the center line responsive to the compression loads of said encountering step.

Claim 47 (new): The method of Claim 46 wherein said providing step includes the step of forming the helical spring to be shorter in a direction perpendicular to the center line than it is wide in a direction perpendicular to the center line and perpendicular to the shorter direction; and

said locating step including the step of orienting the shorter direction of the helical spring to be vertical and the wider direction to be horizontal.

Claim 48 (new): The method of Claim 47 wherein said providing step includes the step of configuring the helical spring to have turns adjacent a middle of the helical spring with a height greater than turns of the helical spring adjacent ends of the helical spring.

Claim 49 (new): The method of Claim 46 wherein said providing step includes the step of configuring the helical spring to have turns adjacent a middle of the helical spring with a height greater than turns of the helical spring adjacent ends of the helical spring.

Claim 50 (new): An implant for location within an intervertebral space between a pair of adjacent vertebrae, the implant comprising:

a helical spring having a plurality of turns about a center line;

said helical spring adapted to be located with said center line extending within a plane located between the two vertebrae;

said helical spring adapted to encounter compression loads transverse to said center line;

said helical spring adapted to flex in a direction transverse to said center line responsive to said transverse loads; and

said center line being non-circular when said helical spring is unloaded and at body temperature.

Claim 51 (new): The implant of Claim 50 wherein said center line extends substantially linearly when said helical spring is unloaded and at body temperature.

Claim 52 (new): The implant of Claim 50 wherein said center line extends at least slightly arcuately when said helical spring is unloaded and at body temperature.

Claim 53 (new): The implant of Claim 50 wherein turns adjacent a middle of said helical spring have a height greater than turns of said spring adjacent ends of said helical spring.